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CARR & FERRELL LLP
2200 Geng Road
Palo Alto, CA 94303

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/684,583
Filing Date: October 15, 2003
Appellant(s): GLENN ET AL.

DANIEL C KLOKE
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/25/2009 appealing from the Office action mailed 3/4/2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,400,246	WILSON ET AL	03-1995
6,282,469	ROGERS ET AL	8-2001
5,959,529	KAIL, IV	9-1999
2004/0090950	LAUBER ET AL.	9/1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5,10,13-15,21,26-29, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kail, IV(5,959,529) in view of Rogers et al(6,282,469), Wilson et al(5,400,246), and Lauber et al(2004/0090950) and Examiner's Official Notice.

-- In considering claim 1, the claimed subject matter that is met by Kail, IV(Kail) includes:

1) the remote sensor configured to obtain data is met by the external sensors(28b);

2) the battery configured to provide primary power is met by the power supply(42) such as batter for providing power for the components of the portable monitoring unit(12).

- Kail does not disclose:

1) the sensors configured to receive a command to enable or disable the sensor and obtain data that is of an environmental nature;

2) the control board including a microprocessor and a plurality of serial communication ports, one of the ports configured to receive and process the data from a variety of types of data collection devices, including the remote sensor, place the data into at least one packet, and transmit the packet from the board using wireless communications;

3) the solar panel configured to recharge the battery.

Although the use of a control board is not specifically stated in Kail, Kail does suggest use of a control board in the form of sensor interface unit(20) having a microprocessor(22) with multiple inputs and outputs(see: column 4, lines 19-22), including a external port(37) and external interface(30), both of which being suggested as serial communication ports which allows connection to compatible sensors(see: column 4, lines 29-39 and 56-57). As well, a first transceiver(26) which transmits data that has been gathered by the sensors(28) via wireless communication link(16) is included in the unit(20)(see: column 4, lines 21-29).

Use of a control board including a microprocessor and serial communication ports is well known in the art. In related art, Rogers et al(Rogers) teaches a system using multipoint serial link data transmission protocols that allow communication between a control board and remote system sensors, wherein a sensor interface board(110) includes a microcontroller(114), and serial port(116) that provide a link to remote sensors(115)(see: Rogers, column 6, lines 11-38). Since Kail already suggests the use of a control board in the form of sensor interface unit(20), it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the sensor interface board(110) of Rogers, in place of the unit(20) of Kail, since this would have conserved space in the unit(12) by providing a stable platform for placement of the microprocessor(22), interface(30), port(37), and all other electronics as desired, onto a single unit.

Furthermore, with regards to the sensors obtaining data that is of an environmental nature and collection of data from a variety of types of data collection devices, although the specific types of sensors are not disclosed by Kail, Kail does suggest implementing specific sensors, such

as chemical sensors, biological sensors, meteorological sensors, etc.(see: column 2, lines 22-27), that would obtain data that is of an environmental nature. Therefore, it would have constituted an obvious design choice to one of ordinary skill in the art at the time the invention was made to incorporate any of the above suggested sensors into Kail for the purpose of obtaining data that would have been of an environmental nature, since one of ordinary skill would have implemented sensors based on the particular environment that would have been desired to be monitored.

As well, although not disclosed by Kail, use of remote sensors configured to receive commands to enable or disable the sensor is well known in the art. In related art, Wilson et al(Wilson) discloses a peripheral data acquisition, monitor, and control system, wherein remote sensors are enabled to receive commands that allow enabling or disabling of the sensors(such as analog temperature sensor(70) or digital sensors(see: column 10, lines 22-30)), via use of the Master Control Program of the PC(12)(see: column 5, lines 42-59; column 6, lines 3-43). Since Kail teaches that the terminal(52) has the ability to request information be transmitted pertaining to a specific sensor of a specific monitoring unit(12)(see: column 7, lines 60 et seq), it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate any of the digital or analog sensors of Wilson, that are configured to receive commands to be enabled or disabled, into the sensors(28) of Kail, since this would have enhanced the ability to configure the system by allowing specific sensors to be controlled as desired, thereby conserving power in the system when specific sensors are not required to be active, prior to data being requested.

With regards to the transmission of at least one packet from the control board using

wireless communications, although the specific use of the term packet is not utilized by Kail, Kail does suggest transmission of data packet via wireless communications, since the data pertaining to a specific sensor of a specific portable monitoring unit is requested and responded via wireless communications link(16)(see: column 7, lines 60 et seq).

Use of data packets being transmitted via wireless communications is well known in the art. In related art, Lauber et al(Lauber) discloses a wireless digital/analog data telemetry system which utilizes a microprocessor that places collected data from sensors into data packets to be transmitted via wireless communications(see: sec. [0123]). Since transmission of data via wireless communication is already taught by Kail, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the transmission of data packets as taught by Lauber, into the data transmissions of Kail, since this would have provided a reliable an efficient method of transmitting data via wireless communication.

With regards to the solar panel, the examiner takes Official Notice that in the remote sensor art, use of solar panels for recharging batteries is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate solar panels for recharging the batteries(42) of the unit(12), since this would have reduced cost in the system by alleviating the necessity of replacing batteries when their power in the batteries would have dissipated.

-- With regards to claims 2 and 3, upon incorporation of the digital and analog sensors of Wilson into the sensors(28) of Kail for the reasons as discussed in claim 1 above, the limitations of claims 2 and 3 would have been met.

-- With regards to claim 4, upon incorporation of the analog sensors into the sensors(28) as

discussed in claim 1 above, it would have also been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an analog to digital converter linked to the control board of Kail, since Kail suggests use of a digital microprocessor(22) and transceiver(26)(see: column 4, lines 61 et seq), which thereby would have required the signals received from analog sensors to be converted to digital form in order to be process/transmitted.

-- With regards to claim 5, although the specific protocol utilized with the sensors is not disclosed by Kail, Kail does suggest use of serial or parallel communication interfaces for the sensors(28) and port(37)(see: column 4, lines 29-41). Use of various types of communication protocol, including RS-232 is well known in the art. In related art, Rogers teaches use of RS-232 protocol to allow communication between the microcontroller(114), within board(110), and the sensors(115)(see: column 6, lines 11-19). Since use of RS-232 protocol is well known as taught by Rogers, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the RS-232 protocol of Rogers into the serial communication of Kail, since this would have provided a well known and reliable means of communicating data between the devices in the system. Furthermore, it would have constituted and obvious design choice to one of ordinary skill in the art at the time the invention was made to substitute SDI12, 12C, and RS-432 protocols into Kail as desired, since one of ordinary skill would have readily recognized the advantage of each particular protocol over another to provide desired results in the system.

-- With regards to claim 10, the remote sensor comprising a temperature sensors is met by the temperature sensors(70) of Wilson that would have been incorporated into the system of Kail for the reasons as discussed in claim 1 above.

-- With regards to claims 13-15, since Kail already suggests incorporation of various types of

sensors as discussed in claim 1 above, it would have constituted an obvious design choice to one of ordinary skill in the art at the time the invention was made to incorporate a voltage sensor that measures the voltage of a solar/battery system, a liquid level sensor, or any other sensor as desired, since the port(37) and interface(30) would have readily allowed connection with various remote sensors. Therefore one of ordinary skill would have recognized the advantage of utilizing any sensor as desired that would have provided desired monitoring results by the units(12).

-- With regards to claim 21, the data being transmitted to a base station is met by the data being transmitted to the central monitoring station(14).

-- With regards to claims 26-29, although not specifically taught by Kail, Use of data packets having N-byte wide messages is well known. In related art, Lauber teaches use of data packets having specific N-byte wide messages including a header block consisting of 10 bytes(see: sec. [0145-0146]). Since the use of N-byte wide messages is well known as taught by Lauber, it would have been obvious to one of ordinary skill in the art at the time the invention to incorporate N-byte wide messages into the system of Kail, and as well would have constituted an obvious design choice to incorporate messages having a maximum of 96, 512, or any amount of bytes as desired into the system of Kail, since one of ordinary skill would have readily recognized the amount of bytes that would have allowed the most efficient transmission of data in the system.

-- With regards to claims 35 and 36, Kail does not teach the use of a memory device configured to store the data. However, Kail does teach that the microprocessor is provided with memory(44) which may be ROM, RAM, and/or mass storage device(see: column 5, lines 2-5).

Inclusion of mass storage in the microprocessor suggest the intention to store some form of data. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the memory(44) to store data, since this would have facilitated transmission of data to the central monitoring station(14) upon request, since a storage device would have allowed a certain amount of data to be compiled prior to transmission of data to the device(14).

Furthermore, since Kail teaches that each particular unit(12) includes a unique identifier that allows specific communication between the station(14) and a specific unit(see: column 2, lines 59-63), it would have also been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an identifier associated with the remote sensor such that data is stored based upon the identifier associated with that sensor, since this would have allowed the station(14) to request specific data from a specific sensor of a specific unit(12).

Kail clearly suggests detection of environmental conditions at a remote site since Kail suggests implementation of sensors for detecting various environmental conditions. Furthermore, upon incorporation of different types of sensors into the system of Kail, it would have been obvious that raw data based on the calibration information would have been processed by the system, since one of ordinary skill would have recognized the advantage of incorporating sensors that provide raw data into the system, since raw data would have provided highly accurate sensor information in the system. Furthermore, any data collected by the sensors would have been processed by the microprocessor(22) and central monitor(14) of the system. As well, wirelessly downloaded updates would have been received by the first transceiver, and provided to the microprocessor(22) upon programming/reprogramming functions being performed in Kail.

(10) Response to Argument

APPLICANT'S ARGUMENTS:

1) "To support a conclusion that a claim would have been obvious requires that all the claimed elements were known in the prior art and that one skill in the art could have combined those elements.....There is, further, no indication from the Examiner that Kail, or any other reference, discloses the claimed calibration";

2) " The Examiner argues that Rogers discloses such a control board.....While Rogers discloses "[m]icrocontroller within board" and a "serial communication protocol" (Rogers, 6:16), Rogers does not disclose a 'control board' that is 'configured to...process the raw data based on at least the calibration information....."As such, each of the references (Kail, Rogers, Wilson, and Lauber) further fail to disclose the claimed 'memory device configured to store calibration information.....and wirelessly download updates to the stored calibration information".

3) "The Examiner has applied an erroneous interpretation of the claim language, including at lease 'a next game environment' and 'the location of the load boundary in the current game environment.....In light of the foregoing, the prior rejection should be overturned and the application remanded with instructions to allow the same."

EXAMINER'S RESPONSE:

1) The appellant contends that the prior art of record does not read on the claimed subject matter because none of the prior art references teach a memory device configured to store calibration information, download updates to stored calibration information, process the raw data based on the calibration information, and wirelessly download updates to the stored calibration

information. In the art rejection dated 9/19/2009, the examiner combined Wilson into Kail. Wilson teaches calibration of remotely controlled and customizable sensors, by allowing remote control of the sensors' functions via MASTER CONTROL PROGRAM of the PC(12)(see: Wilson, column 5, lines 42-59; column 6, lines 3-43; column 10, lines 22-30). Calibration would have been one of the included functions of the sensors of Wilson. Therefore, this calibration function would have been inherently incorporated into Kail, upon incorporating the sensors of Wilson, themselves into Kail.

Kail already teaches that the microprocessor(22), of the unit(12), is programmed with a set of activating parameters, and as well, initialization data and rules to be employed with each sensor embedded in or interfaced to the unit(12)(see: Kail, column 2, lines 49-66). The examiner deems that, upon incorporation of the sensors of Wilson into Kail, the microprocessor(22) of Kail, this would have provided the claimed memory device(44) configured to store calibration information. As stated above, the microprocessor(22) of Kail, already stores operation information for the desired functioning of the sensors in the form of rules to be employed with each sensor embedded in or interfaced to the unit(12)(column 2, lines 59-63). The same device(44) that would have stored the programming of the microprocessor, would have also stored the claimed calibration information.

As well, since Kail teaches that the microprocessor(22) wirelessly downloads instructions from the remote terminal(52) that alters its programming(see: column 7, lines 60 et seq; column 8, lines 1-28), and since the microprocessor would have been configured to store the calibration information, as discussed above, the examiner also deems that the claimed wirelessly download updates to the stored calibration information would have also been met, upon incorporation of

the sensors of Wilson into Kail, for the reasons as stated in the art rejection dated 9/19/2008.

Furthermore, since the examiner has provided evidence that the storage and downloading of calibrated information is taught by the prior art of record, appellant's argument with regards to Kail, in relation to the control board and the processing of raw data based on the calibration not being disclosed, should henceforth be deemed moot.

2) Appellant accuses the examiner of not addressing the limitation pertaining to the control board being configured to process raw data based on calibration information in the art rejection dated 9/19/2008. This accusation, along with applicant's argument, should be deemed moot because the applicant is making arguments against the examiner about subject matter that, at the time of the 9/19/2008 rejection, had not yet been incorporated into the claim. That limitation was not amended into claim 1 until the amendment dated 12/19/2008. Furthermore, that limitation was addressed in the Final Rejection dated 3/4/2009. Applicant is basing each successive argument, on a prior argument that contends that, since storing and wirelessly downloading of calibration is not met by the prior art of record, then no other limitation as well can be taught by the prior art of record, because each claimed limitation is related to and depends on another.

However, the examiner deems, as stated in the Final Rejection of 3/4/2009, that upon incorporation of different types of sensors into Kail, such as those that produce raw data, then it would have been obvious to one of ordinary skill in the art at the time the invention was made that the microprocessor(22) of Kail would have processed the raw data based on the calibration information already stored in the memory(44) of the microprocessor. Furthermore, any data collected by the sensors of Kail would have been processed by the microprocessor of Kail, since

this would have already been one of the primary functions of the microprocessor.

There are obvious advantages to utilizing sensors that collect and output raw data, as opposed to other types of sensors, based on desired use of the system. But the examiner deems that this is a matter of obvious design choice as opposed to a teaching away or lack of ability by the prior art of record, as argued by the appellant. Of course Rogers alone would not have taught a control board configured to process raw data based on calibration information. But Rogers, in conjunction with the other prior art of record would have met the limitations of the claimed subject matter for the reasons as discussed in the previous Office Actions(3/19/2008; 3/4/2009).

3) It appears that applicant is making arguments to another application. However, the examiner does not see the relevance of these arguments as to how they pertain to this specific application. In view of this, applicant's argument is deemed moot.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/DARYL POPE/
Primary Examiner, Art Unit 2612

Conferees:

/Daniel Wu/
Supervisory Patent Examiner, Art Unit 2612

/BENJAMIN C. LEE/
Supervisory Patent Examiner, Art Unit 2612